

## Sequence Listing

<110> HUR, Man-Wook

<120> FUSION PROTEIN COMPRISING TATDMT POLYPEPTIDE

<160> 22

<170> KopatentIn 1.71

<210> 1

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Forward primer for Constructs 2-1 and 2-2 PCR

<400> 1

acgtaagctt accatggcgc cgacctcctg gaccgg

36

<210> 2

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Reverse primer for constructs 2-1 and 2-2 PCR

<400> 2

gacgaattc ggcgagtcgc gctgtgaagt t

31

<210> 3

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

## Sequence Listing

<223> Reverse primer for Constructs 3-1 and 3-2 PCR

<400> 3

gatcgaattc cgggctgggg tcgggcgcc cgcc

34

<210> 4

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Forward primer for Constructs 4-1 or 5-1, 2

<400> 4

acgtaagctt accatggggg acagcgacga gtc

33

<210> 5

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Reverse primer for constructs 4-1 or 5-1, 5-2

<400> 5

gatcgaattc ggcgagtccg gctgtgaagt t

31

<210> 6

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Forward primer for 4-12FC PCR

## Sequence Listing

<400> 6  
acgtaagctt accatggggg acagcgacga gtc

33

<210> 7  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Forward primer for PCR ZF only

<400> 7  
acgtaagctt accatggaga aggtggagaa gatccga

37

<210> 8  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Reverse primer for PCR ZF only

<400> 8  
acgtaagctt cgaggggacg ccgttcagc c

31

<210> 9  
<211> 130  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> POZ-Domain

## Sequence Listing

<400> 9  
Met Ala Gly Gly Val Asp Gly Pro Ile Gly Ile Pro Phe Pro Asp His  
1 5 10 15  
Ser Ser Asp Ile Leu Ser Gly Leu Asn Glu Gln Arg Thr Gln Gly Leu  
20 25 30  
Leu Cys Asp Val Val Ile Leu Val Glu Gly Arg Glu Phe Pro Thr His  
35 40 45  
Arg Ser Val Leu Ala Ala Cys Ser Gln Tyr Phe Lys Lys Leu Phe Thr  
50 55 60  
Ser Gly Ala Val Val Asp Gln Gln Asn Val Tyr Glu Ile Asp Phe Val  
65 70 75 80  
Ser Ala Glu Ala Leu Thr Ala Leu Met Asp Phe Ala Tyr Thr Ala Thr  
85 90 95  
Leu Thr Val Ser Thr Ala Asn Val Gly Asp Ile Leu Ser Ala Ala Arg  
100 105 110  
Leu Leu Glu Ile Pro Ala Val Ser His Val Cys Ala Asp Leu Leu Asp  
115 120 125  
Arg Gln  
130  
  
<210> 10  
<211> 73  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> TatdMt polypeptide  
  
<400> 10

## Sequence Listing

Met Glu Pro Val Asn Pro Ser Leu Glu Pro Trp Lys His Pro Gly Ser  
 1 5 10 15

Gln Pro Lys Thr Ala Cys Thr Asn Cys Tyr Cys Ala Lys Cys Cys Phe  
 20 25 30

His Cys Gln Val Cys Phe Ile Thr Lys Ala Leu Gly Ile Ser Tyr Gly  
 35 40 45

Arg Ala Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln Gly Ser Gln Thr  
 50 55 60

His Gln Val Ser Leu Ser Lys Leu Ile  
 65 70

<210> 11  
 <211> 106  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> AZF39

<220>  
 <221> SIGNAL  
 <222> (4)..(11)  
 <223> NLS(Nuclear Localization Signal)

<400> 11  
 Met Glu Leu Pro Pro Lys Lys Lys Arg Lys Val Gly Ile Arg Ile Pro  
 1 5 10 15

Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg  
 20 25 30

Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro  
 35 40 45

## Sequence Listing

Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu  
 50 55 60

Arg Arg His Gly Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Lys  
 65 70 75 80

Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr  
 85 90 95

Arg Thr His Thr Gly Glu Lys Ala Ala Ala  
 100 105

<210> 12  
 <211> 106  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> AZF40

<220>  
 <221> SIGNAL  
 <222> (4)..(11)  
 <223> NLS(Nuclear Localization Signal)

<400> 12  
 Met Glu Leu Pro Pro Lys Lys Lys Arg Lys Val Gly Ile Arg Ile Pro  
 1 5 10 15

Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg  
 20 25 30

Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro  
 35 40 45

Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu

## Sequence Listing

50					55					60					
Arg	Arg	His	Gly	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Phe	Gln	Cys	Lys
65					70					75					80
Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr
				85					90					95	
Arg	Thr	His	Thr	Gly	Glu	Lys	Ala	Ala	Ala						
				100					105						

<210>	13
<211>	318
<212>	DNA
<213>	Artificial Sequence

<220>  
<223>      AZF39

<400>	13	
atggaattgc ctccaaaaaa gaagagaaaag gtagggatcc gaattcccg	ggaaaaaccg	60
ttccagtgtgta aaacttgtca gcgaaagtgc tcccggtccg accacctgaa	gacccacacc	120
aggactcata ccggggaaaa accgtataaa tgtaagcaat gtgggaaggc	ttttggatgt	180
ccctcaaacc ttcgaaggca tggaaggact cacaccggg	aaaaaccgtt ccagtgtaaa	240
acttgtcagc gaaagtctc ccggtccgac cacctgaaga cccacaccag	gactcatacc	300
ggtgaaaaag cggccgca		318

<210>	14
<211>	318
<212>	DNA
<213>	Artificial Sequence

## Sequence Listing

&lt;220&gt;

&lt;223&gt; AZF40

&lt;400&gt; 14

atggaattgc ctccaaaaa gaagagaaag gtagggatcc gaattcccgg ggaaaaaccg	60
ttccagtgtg aaacttgtca gcgaaagttc tcccggtccg accacctgaa gacccacacc	120
aggactcata ccggggaaaa accgtataaa tgtaagcaat gtgggaaggc ttttggatgt	180
ccctcaaacc ttcgaaaggca tggaaggact cacaccggg aaaaaccgtt ccagtgtaaa	240
acttgtcagc gaaagttctc ccggtccgac cacctgaaga cccacaccag gactcatacc	300
ggtgaaaaag cggccgca	318

&lt;210&gt; 15

&lt;211&gt; 219

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; TatdMT

&lt;400&gt; 15

atggagccag taaatcctag cctagagccc tggaagcacc caggaagtca gcctaaaact	60
gcttgtacca attgctattg tgcaaagtgt tgctttcatt gccaaagttg tttcataaca	120
aaagccttag gcatctccta tggcagggca aagcggagac agcgacgaag acctcctcaa	180
ggcagtcaga ctcatcaagt ttctctatca aagctgac	219

&lt;210&gt; 16

&lt;211&gt; 390

&lt;212&gt; DNA



## Sequence Listing

<213> Artificial Sequence

<220>

<223> POZ-Domain

<400> 16

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atggccggcg gcgtggacgg ccccatcggg atcccgttcc cggaccacag cagcgacatc      60
ctgagtgggc tgaacgagca gcggacgcag ggccctgctgt gcgacgtggt gatcctggtg      120
gagggccgcg agttccccac gcaccgctcg gtgctggccg cctgcagcca gtacttcaag      180
aagctgttca cgtcggggcg cgtgggtggac cagcagaacg tgtacgagat cgacttcgtc      240
agcgcggagg cgctcaccgc gctcatggac ttcgcctaca cggccacgct caccgtcagc      300
acagccaacg tgggtgacat cctcagcgcc gccgcctgc tggagatccc cgccgtgagc      360
cacgtgtgcg ccgacctcct ggaccggcag                                     390

```

<210> 17

<211> 181

<212> PRT

<213> Artificial Sequence

<220>

<223> AZF39-TatdMt

<400> 17

```

Met Glu Leu Pro Pro Lys Lys Lys Arg Lys Val Gly Ile Arg Ile Pro
  1               5               10              15

Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg
      20               25              30

Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro
    35               40              45

```

## Sequence Listing

Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu  
 50 55 60

Arg Arg His Gly Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Lys  
 65 70 75 80

Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr  
 85 90 95

Arg Thr His Thr Gly Glu Lys Ala Ala Ala Asp Ile Met Glu Pro Val  
 100 105 110

Asn Pro Ser Leu Glu Pro Trp Lys His Pro Gly Ser Gln Pro Lys Thr  
 115 120 125

Ala Cys Thr Asn Cys Tyr Cys Ala Lys Cys Cys Phe His Cys Gln Val  
 130 135 140

Cys Phe Ile Thr Lys Ala Leu Gly Ile Ser Tyr Gly Arg Ala Lys Arg  
 145 150 155 160

Arg Gln Arg Arg Arg Pro Pro Gln Gly Ser Gln Thr His Gln Val Ser  
 165 170 175

Leu Ser Lys Leu Ile  
 180

<210> 18

<211> 181

<212> PRT

<213> Artificial Sequence

<220>

<223> AZF40-TatdMt

<400> 18

Met Glu Leu Pro Pro Lys Lys Lys Arg Lys Val Gly Ile Arg Ile Pro

## Sequence Listing

```

1           5           10           15
Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg
      20           25           30
Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro
      35           40           45
Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu
      50           55           60
Arg Arg His Gly Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Lys
      65           70           75           80
Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr
      85           90           95
Arg Thr His Thr Gly Glu Lys Ala Ala Ala Asp Ile Met Glu Pro Val
      100          105          110
Asn Pro Ser Leu Glu Pro Trp Lys His Pro Gly Ser Gln Pro Lys Thr
      115          120          125
Ala Cys Thr Asn Cys Tyr Cys Ala Lys Cys Cys Phe His Cys Gln Val
      130          135          140
Cys Phe Ile Thr Lys Ala Leu Gly Ile Ser Tyr Gly Arg Ala Lys Arg
      145          150          155          160
Arg Gln Arg Arg Arg Pro Pro Gln Gly Ser Gln Thr His Gln Val Ser
      165          170          175
Leu Ser Lys Leu Ile
      180

<210>      19
<211>      313
<212>      PRT
<213>      Artificial Sequence

```

## Sequence Listing

&lt;220&gt;

&lt;223&gt; POZ-Domain-AZF39-TatdMt

&lt;400&gt; 19

Met Ala Gly Gly Val Asp Gly Pro Ile Gly Ile Pro Phe Pro Asp His  
 1 5 10 15

Ser Ser Asp Ile Leu Ser Gly Leu Asn Glu Gln Arg Thr Gln Gly Leu  
 20 25 30

Leu Cys Asp Val Val Ile Leu Val Glu Gly Arg Glu Phe Pro Thr His  
 35 40 45

Arg Ser Val Leu Ala Ala Cys Ser Gln Tyr Phe Lys Lys Leu Phe Thr  
 50 55 60

Ser Gly Ala Val Val Asp Gln Gln Asn Val Tyr Glu Ile Asp Phe Val  
 65 70 75 80

Ser Ala Glu Ala Leu Thr Ala Leu Met Asp Phe Ala Tyr Thr Ala Thr  
 85 90 95

Leu Thr Val Ser Thr Ala Asn Val Gly Asp Ile Leu Ser Ala Ala Arg  
 100 105 110

Leu Leu Glu Ile Pro Ala Val Ser His Val Cys Ala Asp Leu Leu Asp  
 115 120 125

Arg Gln Gly Tyr Met Glu Leu Pro Pro Lys Lys Lys Arg Lys Val Gly  
 130 135 140

Ile Arg Ile Pro Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg  
 145 150 155 160

Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr  
 165 170 175

Gly Glu Lys Pro Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys

## Sequence Listing

```

180          185          190
Pro Ser Asn Leu Arg Arg His Gly Arg Thr His Thr Gly Glu Lys Pro
195          200          205

Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
210          215          220

Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Ala Ala Ala Asp Ile
225          230          235          240

Met Glu Pro Val Asn Pro Ser Leu Glu Pro Trp Lys His Pro Gly Ser
245          250          255

Gln Pro Lys Thr Ala Cys Thr Asn Cys Tyr Cys Ala Lys Cys Cys Phe
260          265          270

His Cys Gln Val Cys Phe Ile Thr Lys Ala Leu Gly Ile Ser Tyr Gly
275          280          285

Arg Ala Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln Gly Ser Gln Thr
290          295          300

His Gln Val Ser Leu Ser Lys Leu Ile
305          310

```

```

<210> 20
<211> 313
<212> PRT
<213> Artificial Sequence

<220>
<223> POZ-Domain-AZF40-TatdMt

```

```

<400> 20
Met Ala Gly Gly Val Asp Gly Pro Ile Gly Ile Pro Phe Pro Asp His
1          5          10          15

```

## Sequence Listing

```

Ser Ser Asp Ile Leu Ser Gly Leu Asn Glu Gln Arg Thr Gln Gly Leu
      20              25              30

Leu Cys Asp Val Val Ile Leu Val Glu Gly Arg Glu Phe Pro Thr His
      35              40              45

Arg Ser Val Leu Ala Ala Cys Ser Gln Tyr Phe Lys Lys Leu Phe Thr
      50              55              60

Ser Gly Ala Val Val Asp Gln Gln Asn Val Tyr Glu Ile Asp Phe Val
      65              70              75              80

Ser Ala Glu Ala Leu Thr Ala Leu Met Asp Phe Ala Tyr Thr Ala Thr
      85              90              95

Leu Thr Val Ser Thr Ala Asn Val Gly Asp Ile Leu Ser Ala Ala Arg
      100             105             110

Leu Leu Glu Ile Pro Ala Val Ser His Val Cys Ala Asp Leu Leu Asp
      115             120             125

Arg Gln Gly Thr Met Glu Leu Pro Pro Lys Lys Lys Arg Lys Val Gly
      130             135             140

Ile Arg Ile Pro Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
      145             150             155             160

Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
      165             170             175

Gly Glu Lys Pro Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys
      180             185             190

Pro Ser Asn Leu Arg Arg His Gly Arg Thr His Thr Gly Glu Lys Pro
      195             200             205

Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
      210             215             220

Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Ala Ala Ala Asp Ile

```

## Sequence Listing

225                      230                      235                      240  
 Met Glu Pro Val Asn Pro Ser Leu Glu Pro Trp Lys His Pro Gly Ser  
                          245                      250                      255  
 Gln Pro Lys Thr Ala Cys Thr Asn Cys Tyr Cys Ala Lys Cys Cys Phe  
                          260                      265                      270  
 His Cys Gln Val Cys Phe Ile Thr Lys Ala Leu Gly Ile Ser Tyr Gly  
                          275                      280                      285  
 Arg Ala Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln Gly Ser Gln Thr  
                          290                      295                      300  
 His Gln Val Ser Leu Ser Lys Leu Ile  
 305                      310

<210>    21  
 <211>    34  
 <212>    DNA  
 <213>    Artificial Sequence

<220>  
 <223>    Forward primer for pcDNA3.0-artificial zinc-finger fusion TatdMt  
          constructs

<400>    21  
 gatcgggtacc atggaattgc ctccaaaaaa gaag                      34

<210>    22  
 <211>    34  
 <212>    DNA  
 <213>    Artificial Sequence

<220>  
 <223>    Reverse primer for pcDNA3.0-artificial zinc-finger fusion TatdMt  
          constructs

## Sequence Listing

<400> 22

gatcgatatc tgcggccgct ttttcaccgg tatg

34